

Method for producing unsaturated ω -3-fatty acids in transgenic organisms

Abstract

The present invention relates to a process for production of unsaturated ω -3-fatty acids and to a process for production of triglycerides with an elevated content of unsaturated fatty acids, especially of ω -3-fatty acids having more than three double bonds. The invention relates to the production of a transgenic organism, preferably of a transgenic plant or of a transgenic microorganism, with an elevated content of unsaturated ω -3-fatty acids, oils or lipids having ω -3-double bonds as the result of the expression of an ω -3-desaturase from fungi of the family Pythiaceae such as the genus *Phytophthora*, for example of the genus and species *Phytophthora infestans*.

The invention furthermore relates to the nucleic acid sequences, nucleic acid constructs, vectors and organisms comprising at least one nucleic acid sequence according to the invention, at least one vector comprising the nucleic acid sequence and/or the nucleic acid constructs, and transgenic organisms comprise the abovementioned nucleic acid sequences, nucleic acid constructs and/or vectors.

A further part of the invention relates to oils, lipids and/or fatty acids produced by the process according to the invention, and to their use. The invention moreover relates to unsaturated fatty acids and triglycerides with an elevated content of unsaturated fatty acids and their use.